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OPERATIONS GUIDELINES
HELICOPTER SKIING

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PREFACE

September 2007

Our Industry is in perpetual motion. Our business models have evolved, we have welcomed many new members to our ranks and what was once the BC Helicopter & Snowcat Skiing Operators Association has been rechristened - HeliCat Canada.

We are an Association whose members have come together to promote and encourage the business and standards associated with helicopter and cat skiing. Membership is not mandatory and there is no legal or regulatory requirement to belong to this Association. Membership is voluntary. Compliance with our operational procedures and standards is, however, mandatory for our members.

The Operations Guidelines represent the minimum standard under which our members are required to operate. They are a culmination of many years of experience and recognize our industry's nearly half a century of history. They continue to be a "work in progress" and this latest revision reflects the numerous changes that have occurred in our industry and the proliferation of new operators and business models. Through regular external operations audits of our members, we ensure compliance with these standards and guidelines and thus ensure that our members are operating at the highest standard possible.

In recognition of the great strides that our founding members made in developing the basis for these standards and procedures, it is their vision that has set the stage for the self regulation of our industry. They have also paved the way for our many new members and allowed us to enter seamlessly a very complicated industry by taking advantage of the knowledge gleaned from those that have gone before us.

It is only through the continued efforts of our members, Committee members and Board of Directors that we are able to demonstrate the commitment to operating at this standard. It is further through our unity in belief and direction that we are able to generate acceptance of our standards by the public, the many arms of government and our clients. These Guidelines serve as a statement of integrity and an assurance of the highest quality of operations.

As HeliCat Canada moves forward and evolves, it is our commitment to continue to set the standard for our industry.

JOHN FORREST
President
HeliCat Canada

INTRODUCTION

The Operations Guidelines are presented in five parts:

Part I deals with categories of member operators and responsibilities;

Part II deals with territorial and licensing parameters of a Helicopter Skiing operation;

Part III deals with the requirements for the staff of such an operation,;

Part IV deals with the system and procedures for the management of the hazards inherent in these operations; and

Part V deals with requests for variances. References are made in the text to extensive appendices that contain equipment and resource lists.

BACKGROUND

Helicopter & Snowcat Skiing evolved in the 1960s as an extension of alpine ski touring, using a helicopter or snowcat instead of climbing skins and muscle power as the mode of uphill transportation. Since its inception, Helicopter and Snowcat Skiing has gained world wide acceptance as the most exciting and challenging form of recreational downhill skiing. By its nature, it is potentially dangerous and also the most expensive recreational skiing activity. It joins mining, logging and transportation as one of the few industries to operate in remote mountain regions in the winter months. In contrast, Helicopter and Snowcat Skiing operations exert minimal environmental impact.

A Helicopter or Snowcat Skiing territory covers a large area and as the various operators started their businesses, a natural partitioning of the BC mountain areas occurred, dictated by geographical and logistical considerations and a gentleman's agreement. In 1978, the operators formed an association to serve their collective interests and to define standards and territories.

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PART I - MEMBERSHIP AND RESPONSIBILITY

1. MEMBERSHIP

There are currently five classes of membership: Applicant (Restricted), Probationary, Active, Associate and Honorary. The three classes of operational members are outlined below.

1.1 APPLICANT (Restricted) MEMBER

An Applicant (Restricted) Member must have applied to the Provincial Government for land tenure with the intention of operating a mechanized business that will conform to the operating and ethical standards of the HeliCat Canada Association.

An Applicant (Restricted) Member would be in the planning or exploratory stage of their business and would not be operating commercially with paying guests. This is their opportunity to be introduced to the standards, benefits and responsibilities of HeliCat Canada membership.

Applicant (Restricted) Members are required to submit an annual report, as specified by the Standards Committee, containing operations details to the HeliCat Canada Office in April of each year. (See Appendix L)

1.1.1 To Become a Probationary Member

When ready to take paying guests, the Applicant (Restricted) Member must apply for Probationary Membership by submitting the following documents to HeliCat Canada's Office:

- Proof of land tenure
- An expanded version of the Operations Review Checklist (see Appendix K).
- The Applicant (Restricted) Member must self-declare compliance / non-compliance with each of the "Essential" categories. If not currently in compliance with an essential item then the Applicant (Restricted) Member must include a plan to attain compliance before the start of the operating season. The Standards Committee will review the application and approve Probationary Member status based on (self-declared) compliance with essential items or the plan to attain compliance. The Standards Committee may provide written reasons for rejection to help the Applicant (Restricted) Member progress to Probationary Membership.

1.2 PROBATIONARY MEMBERS

Prior to an Applicant (Restricted) Member accepting paying clients, the Association's Directors may grant a Probationary Membership for a period of up to two years. The Probationary Membership period is to allow for the operation to meet fully the requirements of the Operations Guidelines.

1.2.1 Meeting the Technical Standard

Probationary Members will be required to do an annual Probationary Operations Review with one of HeliCat Canada's assigned reviewers (see Appendix K). The Probationary Membership Period is for the purpose of the Standards Committee observing the operational practices of the Probationary Member so as to assess eligibility for Active membership status.

Compliance with Essential Criteria is mandatory. If the Probationary Member is not in compliance with essential items, the operator must send in a report / plan to the HeliCat Canada office stating how they are going to address the deficiencies. The Standards Committee will review this plan. Changes will be confirmed by a review the following year.

1.2.2 To Become an Active Member

Elevation to Active Membership will be decided by the Board of Directors upon the recommendation of the Standards Committee after an operation achieves a Substantially Complete or a Partially Complete Probationary Operations Review.

If unforeseen circumstances arise which make it difficult or impossible for a Probationary Member to become an Active Member in two years, the Probationary Member may apply for an exception to the Board of Directors to allow for one further year. The Directors may, at their discretion, extend Probationary Membership for a further year.

1.2.3 Removal from Membership

A Probationary Member may be removed from membership by the Board of Directors following the basic principles of administrative law and/or the following reasons:

a. Continued non-compliance with Essential Criteria in the Probationary Operations Review at the end of the two-year probation period.

b. Other reasons currently defined in the HeliCat Canada Bylaws.

Probationary Membership could be reinstated if the reason for cessation of membership is met at a later date.

1.3 ACTIVE MEMBERS

Any Person that has graduated from Probationary Membership in accordance with the process outlined above. Active Members must continue to operate a Helicopter business in conformity with the Operations Guidelines and the Code of Ethics of the Association.

1.3.1 Meeting the HeliCat Canada Operations Review

(Refer to Appendix K)

A full review by an external evaluator is required during the first and third season as an Active Member for those operations that achieve a Partially Complete Probationary Operations Review.

A full review by an external evaluator is required during the third season as an Active Member for those operations that achieve a Substantially Complete Probationary Operations Review.

Established Active Members who achieve a Substantially Complete Operations Review will then go on to a regular five-year scheduled review rotation.

Compliance with the Operations Guidelines as verified by the Operations Reviews is mandatory. If an Active Member does not achieve a Substantially Complete Operations Review, a report / plan must be sent to the HeliCat Canada office stating how the deficiencies will be addressed. The Standards Committee will review this plan. Changes will be confirmed by a review the following year in the case of an Incomplete Operations Review, and in three years in the case of a Partially Complete Operations Review.

Should the Active Member's review result in an Incomplete Review again the following year, the issue will be addressed by the Board and may affect continued membership status.

1.3.2 Removal from Membership

An operation may be removed from Active Membership by the Board of Directors for the following reasons:

a. Deliberate / continued non-compliance with the Essential Criteria in the Operations Review.

b. Refusal to do Operations Reviews.

c. Other reasons currently defined in the HeliCat Canada Bylaws.

1.3.3 Reinstatement of Membership

Active membership could be reinstated if the reason for cessation of membership is met at a later date. If membership were removed due to insufficient compliance with the Operations Reviews, the Member would need to attain a successful Probationary Operations Review to reinstate membership.

2. MEMBERS' RESPONSIBILITY

Membership in HeliCat Canada is voluntary and there are currently no legal regulatory requirements to belong to the Association or to adhere to certain operating standards. However, by joining the Association members agree to meet or exceed HeliCat Canada's Operations Guidelines.

2.1 OPERATIONS GUIDELINES

Operators agree to use the Operations Guidelines and HeliCat Canada's *Best Practices for Sustainability* as the minimum standard for their respective operating procedures. These Guidelines are subject to on-going review by the HeliCat Canada Board and Standards and Environmental Committees and will continue to evolve over time. Operations reviews for Active members are conducted by independent outside evaluators in order to establish if operators are in substantial adherence to the Operations Guidelines. Resulting reports to the Standards Committee will determine the review rotation. Repeated non-compliance will be noted and addressed by the Board and may affect continued membership status.

2.2 CONSTITUTION & BYLAWS AND CODE OF ETHICS

Operators agree to familiarize themselves with the Constitution and By-laws as well as with the Code of Ethics of HeliCat Canada and conduct their operations accordingly.

PART II - OPERATING AREA

1. LICENSING OF OPERATING AREA

1.1 MANAGEMENT PLAN

A management plan shall be prepared in accordance with Commercial Recreation (or Adventure Tourism) Policy as developed by the Ministry of Tourism, Sport and the Arts.

A composite map showing ski-zones, primary flight paths and primary and secondary use areas is to be compiled, according to the guidelines.

1.2 LICENSING OF TERRITORIES

All correspondence regarding the licensing of Helicopter Skiing territories should be addressed to:

Ministry of Tourism, Sport and the Arts
PO Box 9809, Stn Prov Gov't
5th Floor, 800 Johnson Street
Victoria BC Canada
V8W 9W1

Tel: (250) 952-0478 Fax: (250) 952-0151

Web-site:
http://www.tsa.gov.bc.ca/resorts_rec/tenure/commercialrecreation/index.htm

(This web-site contains all current information necessary for contacting MTSA Adventure Tourism Managers, as well as relevant policies, forms and background information)

It is strongly recommended that Operators contact and attempt to resolve tenure-related issues with their local MTSA Adventure Tourism Manager before contacting the Victoria offices.

2. CATALOGUING OF RUNS

2.1 MAPPING

2.1.1 Marking

The following information is to be marked as accurately as practical on a composite topographical map:

- Run Names
- Landing zones (both drop-off and pick-up including GPS reference of most commonly used ones)
- Runs
- Permanent installations (lodges, fuel caches etc. including GPS reference)
- Emergency shelters with caches including GPS reference
- Communications equipment
- Remote weather stations

(List of GPS references can be kept separate but should be readily accessible)

2.1.2 Display

This map is to be updated continuously and copies of it are to be kept:

- In the guides' meeting room
- Adjacent to the base station radio
- In the helicopter
- With adjacent Helicopter & Snowcat Skiing operators [in case of rescue]

2.1.3 Rescue Plans

It is the responsibility of the operator to send as an attachment to the map a copy of the rescue plans to their adjacent operators.

2.2 PHOTOGRAPHS

Each run should be photographed in winter conditions. Photographs may be stored in a catalogue, digital format or other easily accessed format.

2.2.1 Labels

The following information is to be listed:

- Ski Zones
- Names of runs

2.2.2 Overlays

The following may be marked on transparent or digital overlays:

- Landing zones [both drop-off and pick-up]
- Runs and main lines [these may be colour-coded with respect to hazard].
- Main avalanche paths affecting the run [both observed and suspected]
- Cornice, cliffs, crevasse and other hazards
- Avalanche observations

2.2.3 Summer Photographs

Ski runs may be photographed at the end of summer to show crevasses and other significant features or ground cover.

2.2.4 Use of Photographs

These photographs and overlays are highly valuable tools for:

- Discussion of terrain and hazards at guides meetings
- As information for new guides
- For historical record
- In case of emergencies
- Run development planning

This process of cataloguing photographs is ongoing as new areas and runs are developed and better quality photographs are available and desirable.

3. REQUIREMENTS OF INSTALLATIONS

3.1 BASE STATION

A base station may be located in a remote mountain lodge or camp, a motel, hotel or office in a town, at a helicopter base or ski area. The base should be: a) inside the operating area boundaries or b) close enough to the area to be reached by helicopter within 30 minutes.

3.1.1 Emergency Equipment

A base station is to be equipped with the following categories of back-up rescue gear [see appendices for specific lists]:

- First Aid
- Avalanche Rescue
- Crevasse Rescue
- Emergency Bivouac
- Comprehensive medical supplies [if not near a well equipped clinic or hospital]

3.1.2 Communications

The base station is to provide a link between skiing groups, the helicopter and the outside world. It is to be equipped with FM, UHF or HF single-side band radios or satellite phones capable of maintaining continuous contact with the helicopter and guides. To provide the link it is also to be equipped with a telephone, cellular phone, radio telephone or satellite link which can maintain continuous contact with the outside world. All radio communication is to be in plain English and a radio license is to be obtained from Industry Canada, Ottawa.

Radio repeater sites are to be marked on the composite map.

3.1.3 Position Reports

An updated written record is to be kept of the location of the skiing groups and helicopter and the time of radio contact. It is mandatory that contact be made between the helicopter or guides and the base station at least every thirty (30) minutes or in unusual circumstances some other pre-determined period of time or whenever a change of sub-area is made. Attempts at radio contact should be made by the base and by other helicopters if 30 minutes has elapsed. If contact is not made within 45 minutes of the previous call, the appropriate rescue plan is to be initiated and another helicopter is to be called to search the last recorded location and the surrounding sub-areas (see Appendix G).

If radio contact is not possible from certain location in the operating area at all times and under all weather conditions, it is strongly recommended to equip each helicopter with a portable satellite phone, as a back up.

3.2 FUEL CACHES

These can be established as necessary, but always in accordance with the regulations appropriate to the area concerned. MTSA should be contacted for registration procedures.

The location of these caches is to be clearly marked on the composite maps and GPS locations recorded.

4. PRESERVATION OF TERRITORY

The responsible use and maintenance of access to tenured operating areas is critical for individual operators, but it has implications for and reflects on the credibility of, all members of the Association.

Members should refer to two key documents in managing use of tenured operating areas:

- *Stewardship of Mountain Ecosystems; Best Practices for Sustainability* (on HeliCat Canada website); and
- Responsible Use Annual Report (under development).

4.1 HUMAN SETTLEMENTS

Helicopter noise can be bothersome to non-participants. Whenever possible flying over or near populated areas should be avoided or minimized, and good flight practices followed to minimize impact. Transport Canada and/or local flight regulations must be observed.

4.2 SKI TOURING PARTIES

Discretion should be exercised, so as not to interfere unreasonably with the activities of ski touring groups.

4.3 WILDLIFE

Wildlife is not to be harassed or displaced from habitats. Records of wildlife sightings should be kept, especially goats and caribou. Areas of regular wildlife sightings should be mapped, and flight paths and ski programs shifted so as not to displace animals. Operators should ensure that they are consistent with HeliCat Canada's Memorandum of Understanding (MOU) (signed with the provincial government) on Mountain Caribou.

Members of HeliCat Canada have committed to operating in a manner that is consistent with the Association's document: *Stewardship of Mountain Ecosystems: Best Practices for Sustainability*, available on the HeliCat Canada website. This lays out expectations for environmental and community stewardship. Under the umbrella of that overall approach to sustainability, members are now responsible for ensuring that their tenure management plans and on-going operational approaches to tenured operating areas (winter and summer) are consistent with the province's tourism-wildlife guidelines. For new members, these guidelines apply immediately. For existing members, these will apply as soon as a tenure is replaced or modified. These guidelines can be found at: http://www.env.gov.bc.ca/wld/comrec/crecintro.html. Any members of HeliCat Canada operating in the habitats of mountain caribou are also expected to operate in ways that are consistent with the MOU signed between HeliCat Canada and the provincial government. This document (also available on the HeliCat Canada website) includes specific operating behaviours, regular annual training for guides, pilots and snowcat operators and consistent recording of sightings and decision-making information (minimum standards have been set, and HeliCat Canada has developed a "wildlife sighting form" for any member companies that have not developed their own).

4.4 REMOVAL OF TREES

Tree cutting is to be minimized. However, to ensure safe operations under all conditions it may be necessary to remove trees to develop tree runs and landing zones below tree line.

When the removal of trees is necessary, a plan is to be submitted to the District Forest Manager and all cutting is to be carried out within conditions of the license issued.

4.5 REFUSE

4.5.1 Personal Refuse

The clients are to be educated and reminded not to litter.

The guides and other staff are to prevent littering during the day and are responsible for leaving all areas of operation clean.

4.5.2 Industrial Refuse

Items such as empty fuel drums and other industrial refuse should be removed at the end of each operating season.

4.5.3 Landing Flags

A diligent effort should be made to remove landing flags at the end of the operating season, with priority given to areas used by other groups. Further clean-up may be needed in late summer when more flags melt out, or as required by the terms of the management plan.

PART III - STAFF

The purpose of this chapter is to outline the minimum skills, qualifications and tasks required to run an operation safely and successfully. The exact division of responsibilities will vary widely between different operations. Many of the items listed here under the heading 'LEAD GUIDE' will be performed by a manager, operations manager or owner-operator in many companies. At some operations the guide(s) will take on some of the lead guide duties and responsibilities and in some cases one person fills the role of "all of the above".

1. LEAD GUIDE

1.1 RESPONSIBILITIES

1.1.1. Safety

The prime objective of the lead guide is the safety of clients and staff. He/she is to conduct the daily programs in a way that minimizes all hazards. He/she should monitor and/or supervise the activities of the other guides, especially those with less experience. He/she is to update emergency procedures and equipment for rescue in case of accident (see appendices for specific lists) and maintain supplies required in case of injury or illness (see appendices for specific lists). He/she is to monitor responsibilities delegated to other staff members, ensure all operations equipment is in top condition and insist that frequent radio schedules be kept between guides, helicopter and base station and that clear records be kept of location of skiing groups and the time this information is received. He/she is also to ensure daily records are kept of the names and transceiver numbers of all group members.

1.1.2 Client Satisfaction

The client's expectations may not always be completely fulfilled but it is the responsibility of the lead guide to ensure that the client's experience is a satisfying one. At the beginning of each Helicopter Skiing session he/she is to carefully explain what the clients can expect from their visit.

1.1.3 Communication

The lead guide is to ensure that clear channels of communication exist between clients, guides, pilots, other staff members and him/herself. If he/she observes a breakdown in one of these channels of communication (which may cause misunderstandings), he/she is to intervene and re-establish that communication link.

His/her responsibility should also be to solicit feedback from his/her guides and to keep in touch with other lead guides to exchange ideas and experiences.

1.1.4 Efficiency

Along with the above requirements, the lead guide is to maintain an efficient operation, without compromising the quality of the program. His/her own decisions (especially regarding use of the helicopter) are to be productive and he/she is to supervise and co-ordinate the other guides, assisting them to maintain efficiency in their tasks.

1.1.5 Guides Meetings

The lead guide is to chair all Guides meetings and must ensure that all procedures are followed correctly.

1.1.6 Training

The lead guide is continuously to upgrade and improve his/her professional skills and knowledge by participating in refresher courses, seminars and workshops. He/she is to assist the operator in organizing and effecting in-house training sessions and annual pre-season guides, pilots and staff training.

Operators may also consider mid-season training sessions for supporting staff members.

1.2 SKILLS

1.1.1 Decision-Making Ability

The lead guide is to have sufficient understanding of all facets of the operation and the ability to make effective decisions in most instances, thereby maintaining efficiency and the confidence placed in him/her by clients and other staff members. He/she is to oversee or make all key decisions during an emergency, depending on the experience level of the other guides.

1.1.2 Delegative and Supervisory Ability

The lead guide is to be able to appropriately delegate responsibility and to supervise and co-ordinate the functions of all other guides. It is important to be able to do so diplomatically but at a critical point he/she is to be able to reprimand or dismiss a negligent guide.

1.3 QUALIFICATIONS

The lead guide is to be certified at the level of the Association of Canadian Mountain Guides (ACMG) Mountain Guide or UIAGM equivalent, ACMG Ski Guide, or other equivalent certification; ("Equivalent Certification" will be determined by the Standards Committee of HeliCat Canada). Also recognized are HeliCat Canada Guides as listed in Appendix J.

The lead guide should also have a minimum of 75 days of helicopter or Snowcat guiding experience while working under the direct supervision of a qualified lead guide. He/she should be particularly experienced in the avoidance of hazards, in communicating with and controlling of clients and have experience in multi-group management. This is essential to maintain a high standard of client safety and satisfaction.

He/she is to hold current certification in First Aid at an advanced level (e.g. Emergency Medical Technician, Wilderness Emergency Care, WorkSafe BC Industrial First Aid, or equivalent certification). This certification is to be renewed every three years or as required by the certifying body. In addition he/she is to have special expertise in aspects of illness and injury specific to the mountain environment. His/her experience will prompt a preventative approach (e.g. observing clients for adequate clothing prior to beginning a day of skiing, watching for signs of exhaustion, etc.).

2. GUIDES

2.1 RESPONSIBILITIES

2.1.1. Safety

The prime concern of the guide is the safety of the client. He/she is to watch continually for and recognize potential hazards and reduce the exposure of his/her clients to these hazards.

The guide is to carry in his/her pack a minimum of rescue equipment, a medical kit and spare clothing (see Appendices A and B for specific lists). He/she is to know the contents and location of back-up rescue and resuscitation equipment and share the responsibility of checking and maintaining this equipment with the other guides and the lead guide.

The guide is to maintain radio communication with other guides and the helicopter, maintain awareness of the location of the other groups and the helicopter and ensure that other guides and the pilot are aware of the location of his/her group. Thus, he/she will be able to co-ordinate the movements of his/her group with those of the other groups and the helicopter.

Communication is to be achieved with a minimum of radio traffic.

2.1.2 Client Satisfaction

The guide, within the limitations of safety and efficiency, is to accommodate the clients' skiing abilities and desires, especially with respect to the terrain and speed that the group skis. If a client is having difficulty the guide may place this client directly behind him/her and find the easiest way down. If major incompatibility exists within the group and the group does not necessarily wish to remain together, he/she is to contact the other guides in order to re-structure the groups if possible.

The guide is to ensure that his/her clients are comfortable and their needs are met in a safe and professional manner. He/she is to give his/her clients pointers regarding the use of equipment and ways to handle mountain terrain and changeable snow conditions, in order to ensure their skiing enjoyment.

2.1.3 Communication With and Control of Clients

Where necessary, the guide is to make his/her clients aware of potential hazards, clearly describe the ensuing route, and how he/she wishes the clients to ski that stage (in terms of speed, spacing and timing etc.). Instructions should include information on how to avoid the potential hazards. When addressing clients the guide should face them as much as possible and ensure that everyone has understood his/her instructions.

The guide is to exhibit a willingness to consider requests though demonstrating clearly that he/she makes the decisions.

In order to maintain confidence in the guide it is necessary for the clients to feel that all the guide's decisions are carefully and logically considered. If requested, the guide is to be prepared to explain clearly his/her reasoning.

If a guide experiences difficulty controlling a client or a group he/she is to ascertain the cause of this difficulty and then affect the appropriate solution. It is usually preferable to explain calmly the need for control and request the client's compliance than to exhibit a dramatic response.

The guide is to maintain a daily record of the runs skied by his/her group, the number of skiers using each run and the sub-areas visited that day. This is done in order to facilitate administration.

2.1.4 Training

A guide is to upgrade continuously and improve his/her professional skills and knowledge by taking refresher courses and by taking part in in-house training sessions provided by the operator.

He/she is to assist in the training of a trainee guide whilst maintaining sufficiently close supervision to ensure client safety and satisfaction.

2.2 SKILLS

2.2.1 Safety and Comfort of Clients

The guide is to have the attitude that the safety and comfort of the client is foremost. He/she is to have demonstrated the ability to recognize and minimize hazards. He/she is to be skilled in all rescue procedures and all facets of mountain travel (e.g. route selection and navigation). He/she should also be able to identify clients' problems in dealing with the mountain environment and be willing and able to assist.

2.2.2 Communicative Ability

The guide is to communicate effectively with, establish a rapport with his/her clients and nurture their confidence in themselves and the guide. He/she has to be able to control the group in an effective but pleasant manner. He/she is to exhibit an honest desire to provide the clients with an enjoyable, energetic and interesting mountain experience. The guide's explanations and observations of wildlife, snow structure phenomena geology, or geography can broaden the client's mountain experience and strengthen the client's desire to return for yet another holiday in the mountains. The guide should also make an effort to share with his/her clients his/her feelings towards the mountains.

2.2.3 Skiing Ability

It is necessary that the guide be an excellent and strong skier. To his/her clients he/she will demonstrate a steady safe style, but he/she is to have sufficient energy and skill in reserve to cope with an emergency (i.e. toboggan evacuation).

2.3 QUALIFICATIONS

The guide must be certified at the level of ACMG Mountain Guide or UIAGM equivalent, ACMG Ski Guide, or other equivalent certification. ("Equivalent certification" will be determined by the Standards Committee of the HeliCat Canada - see Appendix J.)

2.3.1 Prerequisites

As prerequisites for this certifying examination he/she must:

a. Have at least one year of practical experience in evaluating snow stability and avalanche hazards and application of avalanche safety measures.

b. Have completed an avalanche safety course at an advanced level, such as the Canadian Avalanche Association Professional Level II Course for Ski Guides.

c. Have worked as an Assistant Ski Guide under the direct supervision of a full guide for at least one season.

2.3.2 Rescue and First Aid

He/she should also have sufficient training in rescue procedures and the ability to act under stress.

He/she is to hold current certification in First Aid at an advanced level (e.g. Emergency Medical Technician, Wilderness Emergency Care, WorkSafe BC Industrial First Aid, or equivalent). This certification is to be renewed every three years or as required by the certifying body. In addition he/she is to have special expertise in aspects of illness and injury specific to the mountain environment. His/her experience will prompt a preventative approach (e.g. observing clients for adequate clothing prior to beginning a day of skiing, looking for signs of exhaustion, etc.).

3. ASSISTANT GUIDES

The Association members are to assist in the training of guides. In that way they will ensure a stable pool of qualified local guides with experience in the specialized field of Helicopter and Snowcat Skiing.

The assistant guide is to obtain training under the supervision of a guide. In the initial period of training, he/she is to ski within the group to observe the guide's job and to experience the guide's performance as a client might. During the intermediate stage he/she will assume leadership of the group with the guide in attendance in his /her group. Then, when the lead guide, the guide(s) and the area manager consider it advisable, the assistant guide is to **assume group leadership** without a guide in attendance. This decision is to be made without compromising the safety or satisfaction of the clients.

Every effort should be made to avoid having the Assistant Guide guiding a group without the Ski Guide or Lead Guide present in the field. It is recognized that this may occur in certain situations (weather problems, groups flying in at the end of the day, etc.). However a Ski Guide or Lead Guide must maintain indirect supervision of the runs and lines being skied, either by radio contact or through a pre-arranged selection of runs.

Assistant guides should be encouraged to participate actively and contribute information during guides' meetings. Their observations and opinions should be heard in order to help hone their knowledge, skill and judgement, and because their input is also of value in the decision-making process.

3.1 RESPONSIBILITIES

3.1.1. Training

The assistant guide is to obtain training whenever possible. He/she is to be involved as much as possible in snow profile, avalanche occurrence, and weather observations, and should attend all guides' meetings. He/she is to be familiar with all rescue and resuscitation equipment.

3.1.2 Skills

The assistant guide should possess basic guiding skills and strive to acquire the skills of a guide by observation, emulation, practice and inquiry. (See also Part III. 2.2 Skills)

3.2 QUALIFICATIONS

An assistant guide is to be certified at the level of ACMG Assistant Ski Guide or equivalent certification. ("Equivalent certification" will be determined by the Standards Committee of HeliCat Canada - see Appendix J.). Also recognized are Guides listed in Appendix J. He/she is to have successfully completed the CAA Professional Level I Avalanche Course for Ski Guides, and hold an E.M.T., Wilderness Emergency Care, or WorkSafe BC Industrial First Aid Ticket, or equivalent.

4. TRAINEE GUIDES / OTHER ASSISTING STAFF

Some operators have other staff assisting their field operations in some manner. This can include tail guides that are a formalized element of their operation, other staff that help out on an irregular basis, practicum guides, etc. These staff are not required or formally recognized in these Guidelines and are used at the discretion of the individual operator. The level of training required (first aid, rescue, avalanche, guiding, etc.) should be appropriate to the role they are fulfilling and is determined by the operator.

At no time can a trainee guide perform the function of an Assistant Guide or Guide unless they have the training and certification required as outlined above

5. HELICOPTER PILOT

The pilot is ultimately responsible for all aspects of safety and operation of the helicopter. He/she must ensure that all flight operations comply with the applicable Transport Canada approved Standard Operating Procedures.

5.1 RESPONSIBILITIES

5.1.1 Safety

The pilot is to ensure the safety of clients and staff both within and outside the helicopter and in the vicinity of the craft. He/she is to decide on the safety of any given landing, flight path or route in any given condition and act accordingly.

5.1.2 Education of Clients and Staff

The pilot is to educate and remind clients and staff of the hazards and procedures in and around the helicopter. He/she or a guide is to provide a safety talk to the clients in which he/she addresses the major client-created hazards, presents the necessary procedures for embarking and disembarking from the craft and emergency evacuation procedures (see also under Part IV 3. Helicopter Hazards). He/she should be willing to make himself/herself available at the end of the day to answer any questions the clients might have.

5.1.3 Helicopter Maintenance

The pilot and the contracting helicopter company are to ensure that all checks and maintenance are performed properly by the engineer and that appropriate spare parts are on hand.

5.1.4 Communication

The pilot is to maintain continuous communication with the guides and retain an awareness of their location. He/she is to communicate his location and that of the skiing groups to the base station on a regular, frequent schedule which he/she is to have established (Maximum 30 minutes, or in unusual circumstances some other pre-determined period of time). (If reliable radio communication is not possible from all locations in the operating area, a portable satellite phone is strongly recommended to be carried in each helicopter - also read Part II 3.1.3 - Position Reports.) He/she is also to communicate with the base station whenever a change of sub-area is to be made. He/she is expected to aid the guides with his knowledge and observation, to evaluate the conditions. He/she also plays an active part in the daily decision-making process. His/her contribution should be limited to where it is safe to fly.

5.1.5 Emergency Procedures

During a skiing emergency on the ground the pilot is to lend assistance as directed by the appropriate guide. He/she may be able to relay radio messages and in addition be able to observe and report from his/her vantage point.

The pilot is to be familiar with the operation's rescue plan including the content and location of the rescue equipment aboard the helicopter and in other locations.

5.2 SKILLS AND QUALIFICATIONS

The pilot is to be licensed to operate the helicopter being used. In addition he/she is to be experienced in mountain flying conditions especially understanding air movement and weather around mountains and operating in flat light. He/she is to be aware of, and regularly consult with the guides regarding the likely locations of cornices and their strengths, of safe landing zones with respect to the possibility of avalanche occurrence and other potential hazards.

The pilot is to familiarize him-/herself with the geography of the area, and learn all common runs, their names and drop-off and pick-up points as well the location of staging areas, rescue and fuel caches. He/she is expected to be genuinely interested in the operation and to be concerned with the clients' safety and enjoyment.

PART IV - HAZARD MANAGEMENT

1. RECORDS

It is essential to maintain daily records of the names and transceiver numbers of all group members (guides, clients, and staff). Proper maintenance of such a record will greatly facilitate all forms of rescue or evacuation. (For other information on records see also Part IV 2.1.7 Records.)

All significant accidents involving clients and/or staff are to be followed up by adequate investigation and clear detailed reports to be lodged at the company office.

2. AVALANCHE HAZARD

The avalanche hazard presents the greatest danger to the Heli-Skiers representing the majority of fatal accidents in BC, and therefore requires the most attention.

2.1 PREDICTION

This is to be approached at an operations and individual guide level. Predictions are to be updated constantly.

2.1.1 Observations

Local observation of weather, snow stratigraphy, and avalanche occurrence are to be made in accordance with accepted practice. These are to be made from late fall or early winter continuously through the operating season.

Weather observations are to be made at identified study plots that allow access and observations prior to a morning guides' meeting (before skiing). Study plots should be located outside the runout zones of potential avalanches, and if not the risk must be assessed before a guide visits the site. Alternatively, observations from a relevant substitute (nearby lodge, alpine station, weather office, etc.) may be used. In addition, observations of weather conditions are to be taken throughout the day in the field.

Snow profiles are to be taken as full profiles in study plots (to show change over time), test profiles in selected locations (to give change over space) and other spot observations, at a frequency that allows for sufficient tracking of relevant features in the snowpack.

Observations of weather and snow conditions should be taken at regular intervals as needed. In periods of high hazard, checks by guides prior to skiing with clients may be made when indicated.

2.1.2 Weather Conditions Aloft and Forecast

Guides and pilot are to be aware of reported and forecast conditions aloft in the area of operations, as provided by the Meteorological Service of Canada and other sources.

2.1.3 Stability Evaluation

Observations and expertise are to be used to evaluate snow stability and expected changes on at least a once-per-day basis. In addition, each guide is to update this evaluation minute by minute throughout his/her guiding day.

Snow stability should be related to the terrain, elevation and aspects. For example "alpine good except fair on solar aspects or sub-alpine fair except poor below 1,400 meters on east and north aspects due to a buried surface hoar layer."

2.1.4 Terrain

With the stability evaluation in mind, terrain is to be chosen in an established method to compile a day's skiing program. The method is to draw on all guides' decisions to provide a pleasurable program but one which could prevent any guide taking his/her group on to a run which is questionable under the given conditions.

2.1.5 Guides' Meetings

Guides are to meet prior to skiing to discuss observations, input of relevant information from other neighboring operations (see Part IV. 2.1.6 Information Exchange), weather forecast and evaluate snow stability and formulate the day's program. Each operator is to have a formalized procedure for daily run selection, such as a colour coded listing of runs as red, yellow and green. This should include agendas for Guides' meetings and a step by step system for assessing the stability and hazard on each run based on a Snow Stability Checklist. It should also include specific provisions for the opportunity to change and adjust the program during the day. If an operation uses a "yellow run" system it is strongly suggested that criteria for same day opening of "yellow" runs should be limited to storm snow conditions, overnight changes or easily quantified criteria such as avalanche activity, cornice fall, successful explosive control, etc.

During the evening Guides' meeting pertinent observations and snow profiles made throughout the day are to be discussed and recorded.

2.1.6 Information Exchange

Significant observations of weather, snow stratigraphy and avalanche activity in addition to stability evaluations and other relevant information should be exchanged with adjacent Helicopter or Snowcat Skiing and other relevant operations. This should also include a record of the exchange taking place. Members are encouraged to subscribe and actively contribute to a daily Industry Information Exchange. This currently is called the INFOEX, and is managed by the Canadian Avalanche Association (CAA).

2.1.7 Records

Weather, snow pack and avalanche observations, snow stability evaluations and skiing programs are to be recorded. Records are to be kept for future reference as required by the operation. This may include season profiles, whiteboards for tracking persistent weak layers and records kept in computer programs.

2.1.8 Guides' Abilities

The guide is the on-site forecaster and controller. He/she is the final safety measure of any operations plan. His judgement is paramount (see Part III GUIDES 2.3 QUALIFICATIONS).

2.1.9 Communication

Guides are to communicate any significant or unexpected avalanche related information to the other guides immediately and when applicable to adjacent Helicopter, Snowcat and other operations.

2.2 AVOIDANCE

2.2.1 Run/Route Selection

The guide must only ski areas and runs included in the day's program as discussed during the Guides' meeting or as agreed on by all the guides in subsequent discussion. An individual guide must only make an independent decision not to ski a particular run or line. Under no circumstances is he/she to make an independent decision to ski a run that was deemed unsafe at a Guides' meeting. However, he/she is ultimately responsible for the safety of his/her group on a run or line and must choose an appropriate route and method of skiing the run. He/she is to fuse his understanding of the overall stability with the particular conditions on his route.

Great care is to be taken when groups are in the same vicinity, especially when one group is skiing above the other.

2.2.2 Retention Devices

The wearing of ski run-away straps (safety straps) is to be disallowed and the use of pole straps discouraged.

2.2.3 Helmets

Helmets should be of the type that does not impair hearing.

2.2.4 Cell Phones and Other Electronic Devices

Cell phones and other electronic devices such as a GPS instrument, personal music devices, etc., are known to interfere with the signals of the avalanche transceivers. Clients should be instructed that if they carry such a device it must be turned off while skiing.

2.2.5 Client Education

Clients should be taught to recognize and avoid hazard. They should be instructed in how to react, in case an emergency should occur.

The guide must remain aware of the physical state of the clients. He/she is to look specifically for signs of excessive fatigue, intoxication due to alcohol or drugs, or other signs of impaired abilities. Should the client be deemed to be unsafe to him/herself or others, he/she should be immediately returned to base.

2.3 AVALANCHE CONTROL

2.3.1 Ski Control

Ski control is only applied on short slopes, small isolated pockets or shallow instabilities on otherwise safe runs.

2.3.2 Explosives Control

Each operation using explosives for avalanche control has to develop a plan that states the types of explosives used for control, the manner in which explosives are to be handled, the qualifications and training for personnel handling explosives and to the extent that this is possible, identify the locations where such explosives are to be applied.

Explosives use must be within the regulations set out by WorkSafe BC, Transport Canada and Energy Canada and recorded in the CAA Personal Blasters Log. In addition Blasting Procedures for avalanche control must be approved by Transport Canada and Energy Canada then by WorkSafe BC, before implementation.

2.4 RESCUE

2.4.1 Rescue Plan

A rescue plan is to be evolved for each area:

- To identify the chain of command.
- To list locations of back-up rescue equipment (helicopter, base station, all relevant outside resources) and back-up personnel.
- To incorporate a universal procedure for rescue and evacuation.
- To provide necessary information on neighbouring operators, outside agencies, their radio frequencies and telephone numbers.
- A list of GPS co-ordinates is to be compiled for outside agencies and helicopters to assist in case of rescue or evacuations.
- To contain co-ordinates of each run, fuel and rescue caches, staging areas and lodges In addition; it is to provide space for

recording all key information (see Appendices G and H). All guides, pilots and support staff are to be briefed in the use of this plan during the pre-season training session.

2.4.2 Transceivers

Every member of a Helicopter Skiing group is to be equipped with a functioning avalanche transceiver. The transceivers are to be on the same frequency, reliable, charged, or batteries replaced, at appropriate intervals, and checked for transmission just before leaving for the first ski run and at any appropriate subsequent time (e.g. after lunch indoors). The Canadian Avalanche Association advises that 457kHz is the accepted Canadian and International standard for avalanche transceivers.

The guides are to be expertly proficient in transceiver use. The clients are to be instructed in their use and are to undergo a practice exercise (such as a group search, solo search, etc.) conducted by the guides at the commencement of a Helicopter Skiing session. This exercise is to include the theory behind a search, use of the controls and imperfections of the system (e.g. effect of orientation). They are to be instructed to leave the transceiver switched on during skiing and to wear it according to the manufacturer's recommendations.

2.4.3 Guide's and Guests' Rescue Equipment

The guide is to carry, among other equipment, a suitable avalanche probe and shovel and a medical kit (see Appendices A & B). Each group is to be equipped with a second pack containing another probe, shovel and radio. (See Appendix I for recommended contents.)

2.4.4 Guide's Rescue Training

The guide is to be proficient in all facets of transceiver search and all other forms of search for avalanche victims. During a search he/she is to protect the other clients from further danger (i.e. by posting an avalanche guard and establishing escape routes where appropriate). If secondary avalanches are likely to occur, the guide may reduce the number of clients searching or keep clients out of the exposed area altogether.

2.4.5 Back-up Rescue Personnel

During an emergency it is advantageous if back-up personnel (e.g. other groups) are close by and in radio contact and can be called to the accident site if necessary. The pilot may be useful in relaying messages. The helicopter can also be used to spot from the air.

Outside assistance may be obtained from nearby Helicopter or Snowcat Skiing operations, ski areas, provincial or national parks or mountain rescue organizations and should be listed in the rescue plan (see Appendices G and H for specific lists).

2.4.6 Back-up Rescue Equipment

Back-up rescue equipment listed in Appendix E must be maintained in locations (known to guides, pilots and other staff) in the helicopter and/or at the base or a field rescue cache. In addition, portable resuscitation equipment may be carried in the helicopter, or be readily available at the operations base (See Appendix D).

2.4.7 Authorities

If a death has resulted from any accident, the local R.C.M.P. is to be notified before evacuating the body.

2.4.8. Single Ski Group Requirements

A single group can be guided by only one guide provided that there is adequate in-house rescue back-up such as other qualified guides and helicopters in the operating area or standing by at the base until the end of the day's skiing activities. A single group without rescue back-up should have two guides in the group consisting of a minimum of one lead guide and one assistant guide as defined in Part III of these Guidelines. In addition Back-up Rescue Personnel as defined in Part IV, 2.4.5 still applies.

2.5 ACCIDENT REPORTS

At the first opportunity the neighbouring areas are to be notified of any avalanche accident. The report should contain all relevant technical information such as previous observations and evaluations, time, location, aspect, incline, size, suspected cause and trigger, stratigraphy of snow, number of people involved.

A corresponding CAA Avalanche Involvement Report is routinely submitted as a subscriber of the CAA INFOEX.

Members are required to notify the HeliCat Canada Office of any accident resulting in serious injury or loss of life, as soon as possible after the accident.

It is recommended that the company compile a comprehensive accident report. This may include findings from competent outside expert investigators. This report is a confidential company document that can be submitted to the member's insurance broker.

3 HELICOPTER HAZARDS

Helicopter accidents represent a substantial client hazard.

3.1 HELICOPTER CRASH

3.1.1. Prevention

It is the ultimate responsibility of the pilot to prevent a helicopter accident. However, he/she is to be assisted by the helicopter engineer, the lead guide and the guides.

The guide is to assist by ensuring there are no loose objects outside the helicopter during landings and take-offs. The guide is to ensure that the skis, poles and his/her pack are securely fastened on the exterior of the aircraft, in a basket with a lid or approved ski rack to prevent any object from coming free.

Landings with poor visual reference are to be adequately marked. On the test flight after a major refit, only the pilot and engineer are to be aboard.

3.1.2 Rescue

Priorities of the rescue are to evacuate and then tend to the occupants of the helicopter first and the other groups second. The guides and pilot, as well as the base staff are to be aware of nearby resource agencies (helicopters, ambulances, medical staff, hospitals, other operations).

3.2 HELICOPTER BREAKDOWN

3.2.1 Rescue

If the pilot fails to call within 30 minutes of the last contact, every effort must be made to establish contact. If no contact has been made by the end of the uncertainty phase (45 minutes) another helicopter is to be dispatched by the base station immediately. This helicopter is to search the appropriate area while maintaining communication with the base station, if possible.

If the pilot of the area helicopter communicates with the base station to inform them of a breakdown and if he/she indicates that there will be a long delay, it may be necessary to obtain another helicopter to evacuate him/her and the groups.

3.2.2 Survival

A guide is to be aware of the movements of the helicopter (e.g. fuel stops) so that if it becomes overdue and he/she fails to communicate with it by radio he/she will realize early that it is likely in distress and will attempt to communicate this information to the base. He/she should also be well prepared to formulate an effective survival plan to cover the contingencies (e.g. 1 hour wait, 2 hour wait, and overnight wait).

If not yet at the "pick-up" he/she may choose to remain higher for a period of time to benefit from (generally) improved radio communications and possible sunlight or temperature inversion. Or he/she may choose to proceed to a forested area and commence building a fire and some form of shelter, or proceed towards a road or an established shelter. He/she is to keep the group active and optimistic. During the long delay he/she is to initiate measures to prevent cold-related injuries (suggest people loosen boots, exercise etc.).

3.3 CLIENT-CREATED HAZARDS

Client-created hazards include collision between people and rotors or fuselage, or objects (such as skis) colliding with helicopter rotors or fuselage, or loose objects passing into air intakes. Emergency exits or doors may be opened accidentally in flight.

3.3.1 Prevention

The pilot or the guide is to present a "helicopter safety talk" to clients at the commencement of a Helicopter session. He/she is also to ensure all staff is aware of the requirements. This "helicopter safety talk" may be supplemented by written material or an audio visual presentation (film, slides). The pilot and the guides are to remind clients and staff members of the requirements during the session as needed.

During the "safety talk" the pilot or guide is to point out the major hazards and to request clients hold onto loose objects, to keep low, never to move, or approach, uphill from the craft and if possible to remain within his/her view and never to move towards the tail. He/she is to appoint a doorman and show him/her how to open and close the door and will request the group to remain in front of and to the outside of the doorman on the pad. Seat belts are to remain latched until the guide opens the clients' door, and noise is to be minimized (especially banging boots on the floor). Emergency exits and evacuation procedures are to be covered. In conclusion he/she is to point out sections of the aircraft that clients are to avoid (Pitot tubes, antennae).

In the event where the helicopter is already at the pick-up the guide is to ensure the group is stopped, removes and bundles skis outside the area beneath the main rotor and approaches the helicopter in the appropriate manner and direction, dragging the skis. He/she is to load the skis and then securely fasten all skis, poles and packs on the exterior of the aircraft. If the group is to travel separately (in a small aircraft) he/she is to train a reliable client to load and/or unload skis which the pilot is to supervise. The guide will usually travel first to a mountain landing and last to the final landing. (See also Part IV 2.2.5 Client Education).

4. GLACIER HAZARDS

4.1 AVOIDANCE

Runs and routes are to be chosen to avoid crevasses and icefalls. Maps, photographs, probing, snow stakes (HS) and other snow measurements will aid guides in assessment and orientation.

The guide is to be able to readily recognize and avoid crevasses and terrain likely to contain crevasses. He/she is to clearly communicate instructions to the clients and to explain the hazard (e.g. pointing out areas of a glacier which appear crevasse-free but which he/she knows contain crevasses). He/she is to ensure the clients understand and follow his/her instruction and do not ski below him/her.

4.2 EDUCATION

See Part IV 2.2.5 Client Education.

4.3 RESCUE

4.3.1 Guide's Rescue Training

The guide is to be expert in methods of crevasse rescue and is to be in continuous radio contact with the other guides and the helicopter.

4.3.2 Rescue equipment

Each guide should have within his/her pack sufficient equipment to effect a simple rescue or to prepare a site for a more involved rescue operation.

4.3.3 Back-up Personnel and Equipment

Back-up personnel will be other guides and perhaps a few guests. Extra equipment is to be carried in the rescue pack in the helicopter and at the base (see Appendices for specific lists.)

5. CORNICE / CLIFF HAZARDS

Cornices may fall beneath or above the helicopter or personnel.

5.1 AVOIDANCE

The guide is to communicate cornice information to the pilot prior to arrival at the drop-off point and is to instruct clients on the location of cornices and the advised direction of exit from the helicopter. If appropriate, he/she is to conduct the clients from the craft to a safe location before unloading the skis. Also during skiing, the guide is to give clear instructions to the clients on how to avoid cornices and bluffs and point out their location.

When establishing a new landing site near a corniced ridge top, the possibility of a cornice failure ripping back further than the rocks underneath the snow cover, needs to be evaluated and considered. A fly-by after an extended storm period in order to visually evaluate the situation may be prudent.

6. FOREST HAZARDS

Hazards encountered while skiing in forests include tree well accidents, collisions with trees and separation from the party. Tree wells represent a major concern and hazard and have resulted in fatalities in Helicopter Skiing in BC.

6.1 AVOIDANCE

6.1.1 Partner System

The value and maintenance of the partner ("buddy") system is to be EMPHASIZED and RE-EMPHASIZED.

6.1.2 Guide's Communication

The guide is to communicate clearly and concisely information about the run and instructions he/she wishes followed. At the commencement of the run he/she may communicate the general direction of the run, useful landmarks (including distant objects to help maintain a bearing) and the location of the pick-up. At each stage of the run (when all members of the group are together and listening) he/she is to describe the direction and approximate length of the next stage and the location of the next stopping point. He/she should warn clients of open creeks and hidden drops or any other hazards, where appropriate.

6.1.3 Signals

While skiing in dense forest the guide is to signal his location to his clients, usually by whistle (ONLY HE/SHE IS TO USE ONE) or a special call.

6.1.4 Pitches

Pitches should be geared to the abilities of the group. At the end of a pitch the guide is to make sure that the whole group has come back together. He/she should always stop at major changes in direction.

6.1.5. Pole-straps, Overeating and Intoxicants

While skiing in the trees, clients are to be discouraged from wearing pole straps (See also Part IV 2.2.2 Retention Devices).

They are to be tactfully encouraged not to over-eat during the lunch break. Using alcohol or drugs should be firmly prohibited (the reasons can be explained and in case of non-compliance, the clients must be sent back to the base for their own and the group's safety) (See Part IV 2.2.5 Client Education).

Also, the use of miniature stereo systems is to be prohibited, as clients are unable to give their undivided attention to their surroundings and to the guide's instructions.

6.2 RESCUE

The guides are to be familiar with the rescue procedure in case of a missing client. Initially, the next group on the same run is to be contacted with the instructions to follow in the tracks, doing a transceiver as well as visual search, inspecting tree wells and watching for diverging tracks. The helicopter should also be used to locate the tracks or missing person, eventually to indicate to the client the direction to follow.

7. INJURY

7.1 PREVENTION

Injury is to be prevented by minimizing other hazards, by checking that bindings are functional and properly adjusted and skis are appropriate for the ability and weight of the client. Equipment should be suitable for the given conditions and terrain and clothing should be adequate. The guide is to encourage clients to participate in any stretching exercises, which may be held prior to skiing.

It is also advisable for the guide to give pointers to the clients as to how to ski the terrain and the snow conditions encountered. The guide should also notice who is getting tired, and should advise such clients to sit out a run or two, or to call it a day. (See also Part IV 2.2.5 Client Education)

The guide should make a special effort to prevent accidents on the first run of the day. Statistics show that skiers are more prone to suffer injuries (especially knee injuries) early in the day and at the beginning of the ski trip.

7.2 RESCUE/RESUSCITATION

When deemed necessary, injured persons are to be evacuated immediately after First-Aid treatment to the appropriate facility for further treatment. Area managers are to have a general impression of the capabilities of nearby medical facilities to ensure efficient transport directly to the appropriate facility. Visiting physicians may aid in the initial management and may advise on the treatment requirements of an injured client.

Medication and treatment other than standard First-Aid treatment should only be administered by a physician.

7.3 EQUIPMENT

The guide is to carry a medical kit and equipment to be able to improvise a leg splint and affect a rudimentary evacuation. The helicopter is to contain at least minimum resuscitation equipment, shovel and probe drop bag, and rope rescue drop bag. A remote lodge is to have a comprehensive medical supply. (See Appendices A, B, D, E and F for specific lists).

8. ILLNESS

8.1 AVOIDANCE

Clients are to be encouraged to arrive fit and prepared. If, however, a client does suffer a medical condition which may produce loss of consciousness (e.g. diabetes), he/she is to be encouraged to INFORM MANAGEMENT UPON ARRIVAL. The manager and guides should make an effort to learn about the clients' medical problems, if any.

PART V - VARIANCES TO OPERATIONS GUIDELINES

(Motion passed September 1989)

Any member operation that has specific operations needs, which require him to alter, specify, or delete sections or parts of sections of these Guidelines shall submit in writing a proposed variance application before the operating season, for written approval by the HeliCat Canada STANDARDS COMMITTEE.

No variance shall be implemented without the written approval of the HeliCat Canada STANDARDS COMMITTEE.

APPENDIX A

1. GUIDES PACK

This appendix shows a sample list of contents for a guide's pack. Supplies may be carried that enable the guide to improvise or that can be used for more than one function. Not all items may be necessary/appropriate for every operation. For instance, if an operation has no glaciated terrain, the guides will not need to carry crevasse rescue equipment.

In many operations the crevasse rescue equipment is carried in a separate bag in the machine and only added to the pack when the guide is actually skiing on a glacier. At operations with numerous steep tree runs and terrain which contains cliffs on or near runs, the rope and some climbing gear may be carried at all times.

Guide's Pack Contents

Main Pack
Evacuation system (optional)
Multi purpose splint
Avalanche probe
Snow shovel
Bivouac bag or tarp
Jacket
Headlamp
Pair of spare gloves
Warm hat
Multi-head screwdriver,
Binding tools or multi purpose tool
Metal container for melting snow
Altimeter
Compass (optional)
GPS (optional)
Run map of the area
Bush saw
Pair of skins (optional)
Snow observation kit containing:

- Folding ruler
- Crystal screen
- Magnifying glass
- Field book, waterproof
- Thermometer
- Pencil

Medical Kit (see Appendix B)
Other Medical Equipment:

- Resuscitation mask
- Latex gloves

Glacier/cliff rescue gear

- 1 30-40m/ 8-9mm rope, 5mm Kevlar, or 5.5mm Spectra
- 2 locking carabiners
- 2 carabiners
- 3 5m slings

Optional:
Harness
Ice screw
Pulley

APPENDIX B

1. GUIDES MEDICAL KIT

This is a sample list of medical supplies carried by the guides in their packs.

GUIDE'S MEDICAL KIT

-Medical Gloves
-CPR face mask
-Adhesive strip "Elastoplast" 3" x 4"
-Non- adhesive dressings "Telfas"
-Gauze dressing 3" x 3"
-Wound closures " Steri Strips" 1/2" x 4"
-Elastic bandage "Tensor"
-Triangular bandage
-Adhesive tape plain 1" x 5 yards
-Aluminium or SAM splint
-Scissors, folding or blade
-Pencil and Paper (use field book)
-Alcohol swabs
-Moleskin 3 1/2" x 4"
-Adhesive dressings "Elastoplast"
-Safety pins (large)
-Analgesic tabs (pain relief)
-Field wound dressing
-Matches (waterproof)

APPENDIX C

1. RESCUE PACKS

The sample list below shows rescue equipment that may be kept in the base rescue cache and the Helicopter. In operations with no glaciated terrain there is no need to have crevasse rescue equipment. It should be kept in mind, however, that toboggan evacuations in steep terrain and cliff rescues may require ropes and other climbing gear as well.

Glacier and cliff rescue packs may be stored at the base or at other locations according to the rescue plan of the member's operation.

RESCUE PACK (BASE)

-climbing rope 11 mm x 50 mm	2
-U.I.A.A. approved harness	1
-climbing helmet (U.I.A.A)	1
-7 mm x 5 m slings	4
-carabiners	4
-ascenders	1 pr
-pulley	1
-ice screws	3
-ice axe	1
-crampons (adjustable to different size ski boots w/out tools (e.g Grivel 2F)	1 pr
-spare clothing - down/fiberfill jacket	1
- sleeping bag	1
- down/fiberfill booties	1 pr
- mittens, size XL	1 pr
- warm hat	1
-headlamps & batteries	2

RESCUE PACK (HELICOPTER)

-climbing rope 10 mm x 50 m	
-U.I.A.A. approved harness	1
-7 mm x 5 m slings	2
-carabiners, locking, aluminium	4
-pulley	1
-ice screw	1

APPENDIX D

RESUSCITATION PACK

Most of the equipment on the sample list (page 35A), especially the injectable medication, is meant to be used by trained personal only (physicians, nurses, paramedics etc.) Care should be taken to keep the injectables from freezing. A separate small bag containing the cold sensitive items may be used to move them to a heated building at night, so the large pack can remain in the machine and does not have to be handled daily.

A physician's co-operation is essential to obtain prescriptions for the medication.

Operations that have rapid access to paramedics with resuscitation equipment may not need to carry as comprehensive an inventory.

An Automatic External Defibrillator (AED) is also recommended.

RESUSCITATION PACK CONTENTS LIST

OP= OUTER POUCH OF PACK, P= MAIN PACK, D=LARGE RED WINDOW DRUG BAG, C=RED FOAM DRUG KIT
B=BLUE WINDOW BAG, R=SMALL RED WINDOW BAG, T= TRAUMA BAG-ORANGE, I= INTUBATION BAG-BLUE
I&T=1 in INTUBATION BAG & 2 in TRAUMA BAG

LOCATION	ITEMS INDICATED WITH * MUST NOT FREEZE	SIZE	STOCK
P	A.E.D. = AUTOMATIC EXTERNAL DEFRIBRILLATOR		1
OP	PACKSACK & LIST OF CONTENTS		1
OP	GLOVES, STERILE, DISPOSABLE (date and replace every 2 years)	size 8	5 pr.
OP	BURN SHEET	96" X 60"	1
OP	CERVICAL COLLARS	short, regular, tall	3
OP	BOOK, OBSERVATION SHEETS, ENVELOPES, PENS, PENCILS		1 each
OP	TENSOR BANDAGES	4"	4
P	OXYGEN CYLINDER D SIZE C/W CASE,WRENCH, REGULATOR&CHROME NIPPLE	1800-2000 psi	1
P	RESUSCITATION BVM=BAG-VALVE-MASK (c/w adult & child mask & oxygen reservoir)		1 each
D	*ADENOSINE 3 mg/ml EXPIRY DATE =	2 ml preloaded syringe	2
D	*ASPIRIN 80 mg tabs EXPIRY DATE=	80 mg tabs	2
D	*ATROPINE 0.1 mg / ml EXPIRY DATE =	10 ml preloaded syringe	2
D	*DEXTROSE 50% EXPIRY DATE=	50 ml preloaded syringe	2
D	*EPINEPHRINE 1:1,000 EXPIRY DATE=	1 ml amps	1
D	*EPINEPHRINE 1:10,000, 1 mg / 10 ml EXPIRY DATE=	10 ml preloaded syringe	2
D	*LIDOCAINE 20 mg / ml EXPIRY DATE =	5 ml preloded syringe	2
D	*NITROGLYCERINE SPRAY 0.4 mg / spray EXPIRY DATE=	200 dose spray	1
D	*SALBUTAMOL INHALER (VENTOLIN) EXPIRY DATE=	1 Inhaler	1
C	*DIMENHYDRINATE 50 mg/ml EXPIRY DATE=	1 ml amps	2
C	*DIPHENHYDRAMINE 50 mg / ml EXPIRY DATE=	1 ml amps	2
C	*MIDAZOLAM 1mg/ml (replaces 2 diazepam) EXPIRY DATE=	10 ml vials	2
C	*MORPHINE 10 mg / ml EXPIRY DATE=	1 ml amps	4
C	*NALOXONE 1.0 mg / ml (replaces 0.4mg/ml) EXPIRY DATE=	2 ml amps	1
C	*SOLU-MEDROL/SODIUM SUCCINATE EXPIRY DATE=	125 mg Act-o-vials	1
C	AMPOULE FILE (small hack saw blade)		1
B	HAND HELD SUCTION (V-Vac or Res-Q-Vac Unit with two cartridges)		1
B	OXYGEN MASK WITH RESERVOIR AND TUBING (nonrebreather mask)		1
B	SPARE REGULATOR OXYGEN NIPPLE	chrome or plastic	1
B	OXYGEN TUBING C/W PLASTIC COUPLER	7' kink free tubing	1/1
R	SCISSORS EMT SHEARS		1 pr.
R	STETHOSCOPE		1
R	SPHYGMOMANOMETER (B.P Cuff)		1
R	CHEMICAL INSTANT HEATING PAD		1
T	INTRAVENOUS CATHETERS	14 G	2
T	INTRAVENOUS CATHETERS	16 G	2
T	INTRAVENOUS CATHETERS	18 G	2
T	IV DRESSING (Op-Site, Tegaderm)	6 x 7cm	2
T	INTRAVENOUS INFUSION SETS		2
T	*INTRAVENOUS FLUID (SALINE) EXPIRY DATE=	500 mL	2
T	ALCOHOL SWABS		10
T	TOURNIQUET		1
T	NON ADHERANT DRESSINGS	Telfas 20cm x 25cm	5
T	ABDOMINAL PADS	20 cm X 25 cm	5
I&T	SYRINGES C/W NEEDLES	6 ml / 22 G x 1 1/2"	1 / 2
I&T	SYRINGES C/W NEEDLES	3 ml / 22 G x 1 1/4"	1 / 2
I	LARYNGOSCOPE - HANDLE/BLADE		1
I	- LIGHT WITH BATTERIES (new batteries each season)		1
I	- SPARE BULBS		2
I	- SPARE BATTERIES (new each season)		2
I	ENDOTRACHEAL TUBES cuffed w/connectors EXPIRY DATE=	SIZE 8	2
I	ENDOTRACHEAL TUBES cuffed w/connectors EXPIRY DATE=	SIZE 7	2
I	ENDOTRACHEAL TUBES cuffed w/connectors EXPIRY DATE=	SIZE 5	2
I	ESOPHAGEAL DETECTOR DEVICE (INTUBATION DETECTOR - SYRINGE)	E.I.D.100	1
I	LUBRICANT FOR TUBES (sachets or pill bottle)	surgical lubricant	5
I	INTRODUCER-STYLET FOR ENDOTRACHEAL TUBES-maleable copper or aluminum rod		1
I	FORCEPS "MAGILL" (catheter introducing forceps)		1 pr.
I	FORCEPS HAEMOSTAT (curved 6-1/4" long)		1 pr.
I	SYRINGE TO INFLATE CUFF OF ENDOTRACHEAL TUBE	5cc	2
I	SCALPELS (size 10 on handles)		2
I	OROPHARYNGEAL AIRWAYS XSMALL, SMALL, MEDIUM, LARGE		4 TOTAL
I	NASOGASTRIC TUBE (Gastric sump tube)	18FG x 48"	2
I	ADHESIVE TAPE	1" x 5 yd.	1

APPENDIX E

BACK-UP RESCUE EQUIPMENT

The lists below describe the rescue equipment that is to be kept in the rescue cache and the Helicopter. Items like avalanche probes may not be carried in the helicopter, since it will not take much time to pick them up at the rescue cache and there are already several probes in the field (guides packs and guest packs). Some operations have opted to store some rescue equipment in remote caches in order to reduce the weight carried on board the helicopter. (Site specific logistics dictate the location of certain items and these should be noted in the members rescue plan, the following equipment lists represent a minimum of equipment required to deal with emergency situations based on prior experience).

HELICOPTER		stock	inv.
Aluminium shovels in drop pack		1	____
Avalanche probes		4	____
Toboggan (fold-up type, or Sked) with pad		1	
Bivouac bag or sleeping bag/Bauman Bag		1	
Femur splint		1	____
Oxygen equipment	- bottle, (aluminium for heli.)	1	____
	- reducing valve with flow & pressure gauges	1	____
	- key (for bottle)	1	____
	- tubing and mask	1	____
	- cordura bag	1	____

BASE CACHE			
Steel shovels (or in the helicopter)		4	
Avalanche probes	(or in the helicopter)	2	
Toboggan (mountain rescue type, e.g. Cascade 350)		1	____
Oxygen bottle		1	____
Bauman bag		1	____
Backboard, scoop stretcher, and/or vacuum mattress			____
In addition, access to:	- sleeping bags	11	____
	- insulate pads	12	____
	- Pots and dishes		
(Defibrillator (recommended-optional)		1	

APPENDIX F

1. BASE LODGE MEDICAL SUPPLIES

The inventory of medical equipment, supplies and medication is a sample of what may be kept at a remote lodge. Operations that have access to emergency medical facilities 24 hours a day may require minimal supplies only, as a service to the clients.

MEDICAL SUPPLIES STOCK, INVENTORY AND REORDER FORM
See following pages (37A-E for example)

One guide is to be responsible for checking and replenishing medical supplies.

Resuscitation pack and oxygen are to be checked at least once per month and deficiencies reordered promptly. This check is to be recorded with signature and date on the resuscitation pack and oxygen equipment.

Lodge medical supplies are to be checked against this list once per month and major deficiencies (e.g. almost all of an item consumed) be reordered. For minor deficiencies (e.g. 1/2 consumed when 2/3 through the season) may be monitored without reordering.

At season's end supplies are to be checked against this list, inventoried and reordered appropriately. Check for expiry dates on all supplies. Regulators should be overhauled every year.

Medications are to be dispensed by a physician, nurse-practitioner or pharmacist. Recommend dispensing only sufficient quantities (and not the whole container).

LODGE - BASE MEDICAL SUPPLY **SHIPPED BY:**_____

DATE:_____

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	MO	QUANTITY SHIPPED	QUANTITY RECEIVED	RECEIVED BY
ACETAMINOPHEN	Tylenol, Atasol, Panadol Upsanol, Exdol	500 mg	200 EXPIRY DATE=	2			
ACETYLSALICYLIC ACID TABS	Aspirin, ASA, AAS, Upsarin	325 mg	100 EXPIRY DATE=				
CODEINE PHOSPHATE TABS	Codeine	30 mg	100 EXPIRY DATE=				
ZOPICLONE	imovane	7.5 mg	25 EXPIRY DATE=	25			
ALKA SELTZER	antacids	24/box	1 EXPIRY DATE=				
IBUPROFEN TABS	Apolbuprofen Motrin, Surgam, Ansaid Nuprin, Orudis, Naproxen	200 mg	200 EXPIRY DATE=				
CHLORPHENIRAMINE	generic (bottle of 100) Chlortripolon	4 mg	24 EXPIRY DATE=				
GELUSIL TABS or liquid	Mylanta, Maalox, Diovol		100 EXPIRY DATE=				
DOCUSATE	Colace, Metamucil	100 mg	60 EXPIRY DATE=				
BENALYN DM	Syrup	250 ml	2 EXPIRY DATE=	2			
CEPACOL LOZENGES	Sucrets, Chloraseptic	24/box	144 EXPIRY DATE=	6			
NEO-CITRAN POWDER	Sinutab powder	23gr	30 EXPIRY DATE=	1			
PSEUDOEPHEDRINE TABS	Congest-Eze(box of 16) Sudafed, Sinutab, Maxenal	60 mg	100 EXPIRY DATE=	48			

LODGE - BASE MEDICAL SUPPLY
DATE:_____

SHIPPED BY:_____

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	MO	QUANTITY SHIPPED	QUANTITY RECEIVED	RECEIVED BY
OXYMETAZOLINE DROPS	Otrivin, Dristan		5 EXPIRY DATE=	4			
CLARITHROMYCIN	BIAXIN	250 mg	20 EXPIRY DATE=	20			
sufamethoxazole / trimethoprim COTRIMOXAZOLE	apo sulfatrim-d/s SEPTRA,BACTRIM	DS TABS	20 EXPIRY DATE=	20			
LIDOCAINE 1%PLAIN	Xylocaine	20 ML	2 EXPIRY DATE=				
"CAVIT"			1 EXPIRY DATE=	1			
OFLOXACIN	OCUFLOX Garamycin, Polysporin	5 ml	1 EXPIRY DATE=				
LINIMENTS	A-535 Rub Tigerbalm,white non staining Mentholatum, Deep Heat	60 ml	4 EXPIRY DATE=	1 1			
LOPERAMIDE	Apo-loperamide 18's or sbst. Immodium 18's	2 mg	36 EXPIRY DATE=				
POLYSPORIN	bacitracin polysporin "burn" Fucidin, polytopic	15 gr	4 EXPIRY DATE=	1 2			
ANTISEPTIC (skin/instrument)	70% isopropyl alcohol	500 ml	2 EXPIRY DATE=	1			
ANTISEPTIC (skin/instrument)	Betadine scrub	500 ml	2 EXPIRY DATE=				
INTRAVENOUS ADMIN. SET			4				
INTRAVENOUS SOLUTION	0.9% normal saline	500 ml	4 EXPIRY DATE=	4			

LODGE - BASE MEDICAL SUPPLY **SHIPPED BY:**_____

DATE:_____

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	MO	QUANTITY SHIPPED	QUANTITY RECEIVED	RECEIVED BY
DRESSINGS							
MOLESKIN		7" x 20 " / box	5 boxes	4			
ADHESIVE DSG., FABRIC	Elastoplast,Band Aids	100/box 1" x 3"	5 bx	1			
ADHESIVE DSG., STRIP	Elastoplast,	3"X4.5M/box	1	1			
NON-ADHESIVE DSGS.	Telfas pad, shiny no stick	3" x 2.5"	20	20			
VASELINE DSGS.	Sofratulle	4"x4"	10	10			
GAUZE SPONGES	Individ. pkgs.	4"x4"	100	40			
CONTOUR CONFORMING BDGS.	Kling	4"x5yd.	6	6			
ADHESIVE TAPE, PLAIN		1"X5 yd.	5				
TRIANGULAR BANDAGES			5	4			
SKIN CLOSURES	Steri-strips	1/2" x 4"	5 x 6				
ELASTIC BDGS.	Tensor	4 "	24	9			
	Tensor	6"	12	6			
SAFETY PINS			50				
COTTON APPLICATORS	Q-tips	200/Box	1				
KIDNEY DISH			1				
PLASTER OF PARIS BDGS.		4"	12				
		6"	12	12			

LODGE - BASE MEDICAL SUPPLY **SHIPPED BY:**_____

DATE:_____

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	MO	QUANTITY SHIPPED	QUANTITY RECEIVED	RECEIVED BY
STOCKINETTE		3" roll	1	1			
ORTHOPAEDIC PADDING	Webril - 4" roll of soft white felt	4"	6				
WALKING HEELS (for plaster casts)			3				
FLEXIBLE ALU. MESH STIPS	Flexsplint	3" X 24"	2				
CRUTCHES	c/w rubber tips hand grips and arm pads	48-60"	5	4			
INSTRUMENTS							
THERMOMETER (clinical)			2	1			
FORCEPS (needle-holding)		5" pr.	1	1			
FORCEPS (tissue holding)		5" pr.	1	1			
HAEMOSTAT CURVED		5" pr.	1	1			
SCISSORS, (blunt/sharp)		6" pr.	1				
SCALPELS (disposable w/handle)		size 10	5				
SCRUB BRUSHES			5	5			
GLOVES (disposable)	please date and replace every two years	no latex size 8	10				
DRAPES (fenestrated disposable, sterile)		18 x 26"	5	5			
SUTURE MATERIAL with curved cutting needle	4-0 dermalon black mono nylon	4-0 on CE-4	5	3			
	6-0 dermalon black mono nylon	6-0 on CE-2	5	1			
SUTURE MATERIAL PDS with curved tapered needle	4-0 PDS II clear mono	4-0 on CT-4	5	2			

LODGE - BASE MEDICAL SUPPLY **SHIPPED BY:**_____

DATE:_____

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	MO	QUANTITY SHIPPED	QUANTITY RECEIVED	RECEIVED BY
SYRINGES (with needle)		3 ml/25g x 1.5"	5	2			
		6 ml/22g x 1.5"	5	2			
ALCOHOL SWABS			20				
OXYGEN EQUIPMENT							
REGULATOR with pressure & flow guages	c/w oxygen nipple		1				
MASK with tubing / reservoir			1				
KINK-FREE TUBING c/w COUPLER		7 ft.	1				
CYLINDER WRENCH			1				
O2 CYLINDERS	resuscitation pack	D - 425 ltrs	1				
1800-2000psi	lodge	E - 560 ltrs	1				
POCKET MASK with one-way valve & O2 port			1				
MISCELLANEOUS							
SHARPS CONTAINERS	for used needle disposal		3	1			
DISINFECTION NOTE	written by Dr. Jeff Boyd posted by medical supplies		1				

2. REMOTE CACHE MEDICAL SUPPLIES

These are simple and are mainly aimed toward a fire preventing use of lodge medical supplies. They should be stored remote from the main lodge and, if possible, the resuscitation pack should be stored elsewhere than in the lodge as well (e.g. warm engineer's shack). Any excess bandage material should be added to the kit. Outdated intravenous saline from the resuscitation pack may be added also.

REMOTE MEDICAL SUPPLY

GENERIC NAME	TRADE NAME/ALTERNATES	SIZE	STOCK	ON HAND	ORDER
DRESSINGS					
ADHESIVE DSGS. FABRIC	Elastoplast,BAND AIDS	1" X 3"	100		
ADHESIVE DSGS. STRIP	Elastoplast	3" x 1 yd.	1		
GAUZE DRESSINGS	individual packages	4" X 4"	30		
GAUZE BANDAGES	Kling /Flexomull	4" x 5 yd	10		
ELASTIC BANDAGES	Tensor	6"	5		
NON-ADHESIVE DSGS.	Telfas	3" x 2.5"	10		
ADHESIVE TAPE, PLAIN		1" x 5 yd.	5		
TRIANGULAR BANDAGES			3		
SKIN CLOSURES	Steri-strips		5		
SAFETY PINS			20		
SCISSORS, BANDAGE			1		
SALINE, OUTDATED IV	for cleaning burns/wounds		5		
BURN SHEETS	Roehampton sterile,disposable 96" x 60"		2		
I.V. ADMIN.SET	15 drops/ml		2		
	6ml/22 G x 1-1/2"		2		
SYRINGES WITH NEEDLES	3ml/22 G x 1-1/4"		3		
GLOVES	please date and replace every 2 years	SIZE 8	5		
ALCOHOL SWABS			5		

APPENDIX G

RESCUE PLAN

The purpose of the rescue plan is to assist staff at the operations base to organise resources needed when a major accident occurs in the field. It also takes many of the logistical problems off the hands of the field rescue leader. He/she will have the confidence that the proper steps will be taken once a specific plan is called into effect. This may be after an avalanche, helicopter mishap or serious skier injury. The rescue plan is used when guides in the field feel they may need equipment or staff from the lodge, from another operation and/or outside agency.

Usually, the accident victims' best chance is with personnel and equipment already in the field. Therefore, the priority is to free the guides so they can conduct their rescue with maximum efficiency.

If the operator has a well-staffed head office separate from the operations base, it may be advantageous to include this office with its multiple phone lines in the rescue plan as well. Usually, the role of the office staff is to contact all the outside agencies.

A rescue plan may be divided into three or four separate plans that can be used independently. For example:

STAGE 1- Alert: Equipment, staff and outside agencies are *placed on standby* in case they are needed.
STAGE 2 - Callout: Equipment, staff and outside agencies are *mobilized* to assist in the rescue.
STAGE 3 - Completion: The rescue has been effected with the resources available. All further outside assistance is called off.

In the example outline for a rescue plan below the following structure is being used:

PLAN A - ALPHA = Alert (standby)
PLAN B - BRAVO = Basic callout (nearest outside resources only)
PLAN C - CHARLIE = Complete callout (major accident, multiple outside assistance required)
PLAN D - DELTA = Demobilization (notify everyone involve of the completion, no further outside resources required)
PLAN E - ECHO = End of rescue, everyone returned to base
PLAN H - HOTEL = Helicopter emergency

Along with every rescue plan should be a description of how the plan is meant to work, as well as instructions for the groups using the plan:

1. Field rescue leader (guide)
2. Base staff
3. Office staff (if applicable)

Practice scenarios are to be staged at least once a season to give everyone involved a chance to use the plan and find out how it works

The Rescue Resource List is to be used in conjunction with the rescue plan. See Appendix H.

Sample Rescue Plan Outline

PLAN ALPHA - ALERT -

1. ASSEMBLE BASE TEAM
   a) Coordinator
   b) Radio/Telephone Operator
   c) Messenger(s)

2. ASSEMBLE STAFF FIELD TEAM
   a) Members
   b) Preparation

3. PREPARE RESCUE EQUIPMENT
   a) List equipment
   b) Location(s) of equipment

4. PREPARE BASE
   a) Set up receiving rooms
   b) Prepare provisions for rescue teams
   c) Prepare directions for outside resources (maps etc.)

5. RECORD PERTINENT INFORMATION (if and when received from field)
   a) Location, run name, drainage
   b) Time accident
   c) Number involved
   d) Severity of involvement
   e) Weather conditions at site

6. ENLIST HEAD OFFICE (if applicable)
   a) Give known details
   b) Give plan status
   c) Request completion of plan

7. ALERT ADJACENT OPERATION (this may be done prior to step 6, if appropriate)
   a) Give details
   b) Request standby

8. ALERT AVALANCHE DOG
   a) Give details
   b) Request standby
   c) Discuss transportation

9. ALERT HELICOPTER BASE (in case of helicopter mishap or if extra transport is needed)
   a) Ask availability of machine(s)
   b) Request standby

Plan Alpha continued

10. ALERT HOSPITAL/CLINIC
    a) Give details
    b) Request standby

END PLAN A

PLAN BRAVO - BASIC CALLOUT

1. ASSEMBLE BASE TEAM
    a) Co-ordinator
    b) Radio/Telephone Operator
    c) Messenger(s)

2. ASSEMBLE STAFF FIELD TEAM
    a) Members
    b) Preparation

3. PREPARE RESCUE EQUIPMENT
    a) List equipment
    b) Location(s) of equipment

4. DISPATCH STAFF FIELD TEAM & RESCUE EQUIPMENT
    a) When ready consult with field rescue leader to co-ordinate dispatch

5. PREPARE BASE
    a) Set up receiving rooms
    b) Prepare provisions for rescue teams
    c) Prepare directions for outside resources (maps etc.)

6. RECORD PERTINENT INFORMATION (if and when received from field)
    a) Location, run name, drainage
    b) Time accident
    c) Number involved
    d) Severity of involvement
    e) Weather conditions at site

7. ENLIST HEAD OFFICE (if applicable)
    a) Give known details
    b) Give plan status
    c) Request completion of plan

8. DISPATCH ADJACENT OPERATION
    a) Give details
    b) Request urgent dispatch of guiding staff, medical personnel and equipment
    c) Records estimated ETA
    d) List resources being dispatched by the operation

Plan Bravo continued

9. DISPATCH AVALANCHE DOG
   a) Give details
   b) Request urgent dispatch
   c) Arrange or finalise transportation

10. DISPATCH HELICOPTER (in case of helicopter mishap or if extra transport is needed)
   a) Ask availability of machine(s)
   b) Request urgent dispatch
   c) Give location, GPS co-ordinates if available
   d) Give radio frequencies

11. HOSPITAL/CLINIC
   a) Give details
   b) Advise of inbound patients, give injury details if known
   c) Request, if needed and available, dispatch of medical personnel
   d) Request, if needed and available, dispatch of monitor/defibrillator
   e) Co-ordinate transport with avalanche dog if appropriate

12. ADDITIONAL ASSISTANCE
   a) Call if site rescue leader requests

END PLAN B

PLAN CHARLIE - COMPLETE CALLOUT

This plan is optional and depends on the particular circumstances of each operation.

Plan **C** is the same as plan **B** except *MORE OUTSIDE ASSISTANCE* will be called to help out in a major disaster (i.e. large, extensive avalanche with multiple burials). Items like lighting, shelter etc. may become more important in this type of emergency. The plan should be developed according to specific local situations of the operation.

END PLAN C

PLAN DELTA - DEMOBILIZATION

1. OBTAIN INFORMATION
   a) Number of persons with injuries
   b) Injuries
   c) Destination
   d) ETA
   e) Number of persons deceased

2. ENLIST HEAD OFFFICE (if applicable)
   a) Request demobilisation

Plan Delta continued

3. HOSPITAL/CLINIC
   a) Advise of demobilization (in case personnel on standby or dispatched)
   b) Advise details of injured inbound

4. AGENCIES ALERTED/CALLED OUT
   a) Advise of demobilization
   b) Thank for assistance

5. RCMP
   a) Notify ONLY if deaths
   b) Request permission to move deceased

6. RECORDING/CHECKING
   a) Record times demobilized under appropriate sections of alert or callout plans
   b) Check to make sure everyone contacted has been demobilised

END PLAN D

PLAN ECHO - END OF RESCUE

All victims have been evacuated. All others are accounted for and safely back at base.

PLAN HOTEL - HELICOPTER EMERGENCY

This plan can be initiated from either the base or from the field. In the case of an overdue radio call (30 min.) the helicopter engineer is notified and the nearest helicopter is put on standby (uncertainty phase) while attempts to establish contact are continued from the base and the field.

At 45 min. (distress phase) the other helicopter(s) dispatched to search last known location and the helicopter company is notified.

In the event of a mishap plan may progress to Bravo or Charlie. Plan can also be initiated by anyone hearing a distress call (May Day).

APPENDIX H

RESCUE RESOURCE LIST

The Rescue Resource List is used together with the rescue plan. It shows the latest contact information for outside resources that may need to be called in case of a rescue.

The reason for making the resource list a separate document is that it has to be updated prior to every operating season. Furthermore, it can be used as a contact information source by itself, independent from rescue situations.

Below is a sample of times that may be listed in the document. The items will vary greatly from operation to operation, since company structure, access and proximity to neighbouring resources etc. determine the contents of the list.

Sample Resource List Outline

Date
LOCATION
Phone Number

1. Local Rescue Equipment
   a) Location(s)
   b) Special instructions if necessary

2. Local Radio Frequencies
   a) receive
   b) transmit

3. Transceivers
   a) frequency(ies)

4. Head Office (if applicable)
   a) Main Phone Number
   b) Alternate Numbers (pagers, cell phones etc.)
   c) Contact Persons with home phone numbers

5. Neighbouring Operations
   a) Name of Operation
   b) Phone Number
   c) Radio Frequencies, transmit and receive
   d) Transceiver frequency

6. Avalanche Dogs
   a) Location
   b) Handle's Name
   c) Contact Numbers

Sample Resource List continued

7. Air Ambulance Service(s)
   a) Name
   b) Location
   c) Contact Number
   d) Instructions

8. Helicopter Companies
   a) Name
   b) Location
   c) Main Number
   d) Contact Persons, with numbers

9. Hospitals
   a) Location
   b) Facilities (i.e. monitor/defibrillator, emergency department. 24 h etc.)
   c) Capabilities (i.e. orthopedic surgeon etc.)
   d) Main Number

10. Ambulance Services
   a) Location
   b) Contact Numbers
   c) Instructions

11. Additional Avalanche Assistance (i.e. Parks Canada, P.E.P.)
   a) Location
   b) Contact Numbers
   c) Contact Persons

12. RCMP
   a) Nearest Detachment
   b) Contact Numbers

13. Other special Instructions or Information as needed

APPENDIX I

GUEST PACK

Each group should carry a second pack, besides the guide's pack. If two guides ski with a group, the guest pack may be optional.

CONTENTS OF GUEST PACKS

Avalanche Rescue
- shovel
- probe

First Aid
- field dressing
- bandaids
- tensor bandage
- triangular bandage
- matches

Clothing (these items may be carried elsewhere)
- warm-up pants
- warm hat
- mitts, with nylon covers
- heat pads

Non-Perishable Food (optional may be carried elsewhere)

Communication
FM two-way radio

APPENDIX J

SCHEDULE OF EQUIVALENT CERTIFICATIONS

CSGA Level II Variance

CSGA Level II Guides who can produce a certificate of completion dated prior to May 2004 will be recognized as equivalent to ACMG Assistant Ski Guide.

CSGA Level III Variance

CSGA Level III Guides who can produce a certificate of completion dated prior to May 2004 will apply to the Standards Committee for a variance to the equivalent of ACMG Ski Guide.

The guide's application must be submitted by the operation the guide is working for i.e. not by the individual guide. The applications should include:

1. A detailed summary of the work history of the individual
2. The operator needs to vouch as to the ability of the guide to perform to an equal standard, as specified in the guidelines for the duty of a guide or a lead guide
3. The following documents need to be included:

   A - Copy of the Level III CSGA certification document
   B - Copy of a valid first aid certificate - advanced level

Variances are granted to the operator and are site specific allowing the named individual to guide at the member's area

The process is open-ended but change of employment will require another application by the respective operator.

The above relates exclusively to CSGA guides graduating prior to May 31, 2004. All future CSGA graduates are no longer recognized by HeliCat Canada.

Foreign Ski Guides

IFMGA Mountain Guides are recognized by the ACMG and HeliCat Canada as equivalent to ACMG Mountain Guides.
Individuals may make an application to the Association of Canadian Mountain Guides for equivalency to the ACMG Ski Guide/ Assistant Ski Guide Certification (e.g. Foreign IFMGA Ski Guides, and Assistant Guides). Successful applicants would then be accepted by HeliCat Canada.

Lead Guide Equivalency (1992)

In 1992, a one time process identified, evaluated and recognized, on a case by case basis individuals with prior experience in helicopter or snow cat ski guiding. These individuals were considered to be qualified as lead guides for mechanized ski guiding under the BCHSSOA (now HeliCat Canada) Operations Guidelines. A list of these individuals is available at the HeliCat Canada office.

APPENDIX K

HELICAT CANADA OPERATIONS REVIEW

Operation: ... .
Date: ... .
Reviewer: ... .

Y=Yes N=No I=Incomplete

NO	DESCRIPTION	Y	N	I	CLASSIFICATION
1.0	**TERRAIN**				
1.0	Maps of runs with information listed in the guidelines				VERY IMPORTANT
1.2	Photographs of runs with information as listed in the guidelines				IMPORTANT
2.0	**SNOW STABILITY AND HAZARD EVALUATION**				
2.1	Records of snowpack observations with respect to frequency, location, content and coverage of skiing area				**ESSENTIAL**
2.2	Consideration of all relevant observations in the analysis of snow stability				**ESSENTIAL**
2.3	Hazard forecast and management: documentation and discussion of terrain analysis and development of day plan and run lists by taking into account avalanche hazard, glacier hazard, bluffs & forest				**ESSENTIAL**
2.4	Records of weather observations in the field and other locations relevant to the conditions in the skiing area (base, remotes, etc.)				VERY IMPORTANT
2.5	Documentation of snow stability analysis				VERY IMPORTANT
2.6	Communication with neighboring areas and record of the exchange. Note: participation in the CAA Infoex is recommended				VERY IMPORTANT
2.7	Weather forecast				IMPORTANT
2.8	Application of weather observations from other agencies				IMPORTANT
3.0	**RESCUE**				
3.1	Content of rescue plan				**ESSENTIAL**
3.2	Communications between guides, helicopter/snowcat, base station and outside world				**ESSENTIAL**

Operation: .....

Date: .....

3.3	Availability of sufficient numbers of functioning avalanche beacons, adequate instruction of clients in use of transceivers as well as adequate instruction and briefings on other relevant safety procedures and hazards, as detailed in the guidelines				**ESSENTIAL**
3.4	Availability of rescue equipment in the helicopter/snowcat and or other places such as remote rescue caches to enable timely and efficient rescues Equipment to include items listed in the guidelines and to be itemized and stored according to the rescue plan				VERY IMPORTANT
3.5	Availability of additional rescue equipment such as glacier packs and other specialized rescue gear as listed in the guidelines and stored in various places such as the base and itemized and listed in the rescue plan				VERY IMPORTANT
3.6	Availability of back-up rescue equipment stored and listed according to the rescue plan				VERY IMPORTANT
3.7	List of group members				VERY IMPORTANT
3.8	Content of guides pack				IMPORTANT
4.0	**GUIDES**				
4.1	Formal qualification of lead guide				**ESSENTIAL**
4.2	Formal qualification of guides, assistant guides and trainee guides				**ESSENTIAL**
4.3	Avalanche training				VERY IMPORTANT
4.4	Valid first aid ticket				IMPORTANT
5.0	**VARIANCES**				

TOTAL ITEMS CLASSIFIED AS ESSENTIAL **8** **COMPLETE** _____

TOTAL ITEMS CLASSIFIED AS VERY IMPORTANT **9** **COMPLETE** _____

TOTAL ITEMS CLASSIFIED AS IMPORTANT **5** **COMPLETE** _____

Operation: ... .

Date: ... .

REVIEW ROTATION CRITERIA:

FOR ESTABLISHED ACTIVE MEMBERS

A - **Substantially complete**
Every fifth season
Meets all components classified as essential & very important

B - **Partially complete**
Every third season
Meets all components classified as essential and a minimum of seven listed as very important

C - **Incomplete**
The following season
Fails to meet components classified as essential and/or does not meet a minimum of seven components listed as very important

FOR NEW ACTIVE MEMBERS

A full review by an external evaluator is required during the first and third season as an Active Member for those operations that achieve a Partially Complete Probationary Operations Review.

A full review by an external evaluator is required during the third season as an Active Member for those operations that achieve a Substantially Complete Probationary Operations Review.

Signature: .....

Date .....

APPENDIX L

HELICAT CANADA ASSOCIATION

Suite 102 - 810 Waddington Drive
Vernon BC
V1T 8T3

Phone: 250-542-9020
Fax: 250-542-5070
e.mail: info@helicatcanada.com

ANNUAL REPORT FOR APPLICANT (RESTRICTED) MEMBERS

WINTER Season:

Name of Company: _____

HeliCat Canada Member since: _____

B.C. License of Occupation issued:
Date _____

Geographical location of operations: _____

Nature of operations: Heli-skiing / Cat-skiing

Exploratory: _____

No of days
Dates _____

Promotional:

No of skier days _____

Non-revenue days _____

Dates _____

ANNUAL REPORT FOR APPLICANT (RESTRICTED) MEMBERS continued

Name of Company _____

Specify names and qualifications of the Guides:

Lead Guide(s): 1 _____

2 _____

Guides 1 _____

2 _____

3 _____

Asst. Guide(s) 1 _____

2 _____

Do you anticipate operating with paying guests next ski season? **YES / NO**

If No

When do you anticipant operating with paying guests / applying for Probationary Member status? _____

If Yes

Please apply for Probationary Member status. Refer to the Operations Guidelines to proceed.

General Comments: _____

Submitted by:

Name _____

Position _____

Date _____

Signature _____